REMARKS

Claims 1-12 and 24-30 remain in the application, and claims 1 and 24 have been amended hereby.

The claims have been carefully reviewed and amended with particular attention to the points raised in the Office Action. It is submitted that no new matter has been added and no new issues have been raised by the present amendment.

Reconsideration is respectfully requested of the objections made to the title and abstract. The instances noted in the Office Action have been addressed by the amendments made to the title and to the abstract hereby.

Withdrawal of the objections to the title and to the abstract is respectfully requested.

Reconsideration is respectfully requested of the objection to the drawings under 37 CFR § 1.83(a).

The Office Action states that ''[f]igures 4-6 only show a desired result without providing any useful showing of how the information is determined or extracted. The information itself is not illustrated'' (see Office Action, p. 3, lns. 9-12). Applicant respectfully disagrees.

Referring to Fig. 4, the specification of the present application states ''[f]ig. 4 is a block diagram showing a specified structure of the vocal separation unit 212 provided on the intermediate transmission device 2. Referring to Fig. 4, the vocal separation unit 212 includes a vocal canceling unit 212a for generating the karaoke information, a vocal extraction unit 212b for generating the vocal information and a data outputting unit 212c for generating the transmission

data'' (see specification of the present application, p. 23, lns. 1-5).

It is submitted that Fig. 4 illustrates elements representing the vocal separation unit 212, including vocal canceling unit 212a, vocal extraction unit 212b, and data outputting unit 212c (see id., Fig. 4).

It is submitted that the structure and operation of the elements illustrated in Fig. 4 are likewise described in the specification. The vocal canceling unit 212a includes, for example, a digital filter, and cancels the vocal part component from the input vocal-containing musical number information D1 (audio data) to generate the karaoke information D2, which is the audio data composed only of the accompaniment part (see id., p. 23, lns. 6-16).

The structure and operation of the vocal extraction unit 212b is described at p. 23, ln. 17 to p. 24, ln. 1), and the structure and operation of the data outputting unit 212c is described at p. 24, lns. 2-6.

Regarding the information processed by the vocal separation unit, Fig. 4 includes labeled line elements illustrating the flow of input musical number information D1, the audio data composed only of the accompaniment part (karaoke information) D2, and the vocal information D3 (see id., Fig. 4). The information represented by D1, D2, and D3 in Fig. 4 is likewise described in the specification (see id., p. 23, ln. 1 to p. 24, ln. 6).

Fig. 5 illustrates a specified structure of the speech recognition translation unit 321, including graphical

representations of a sound analysis unit 321a, a recognition unit 321b, a word dictionary data unit 321c, a translation processing unit 321d, a first language sentence storage unit 321e, and a second language sentence storage unit 321f (see id., Fig. 5). The structure and operation of the above-referenced elements are described at p. 24, ln. 7 to p. 29, ln. 1 of the specification of the present application.

Similarly, Fig. 6 shows a structure of the speech synthesis unit 322, including graphical representations of a speech analysis unit 322a, a vocal generating processor 322b, a synthesis unit 322c, and a second language speech synthesis unit 322d (see id., Fig. 6). Description of the structure and operation of the elements illustrated in Fig. 6 is included in the specification at p. 29, ln. 2 to p. 31, ln. 4.

It is respectfully submitted, therefore, that the drawings are in accordance with the provisions of 37 CFR 1.83(a).

Withdrawal of the objection to the drawings is respectfully requested.

Reconsideration is respectfully requested of the rejection of claims 1-12 and 24-30 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to point out and distinctly claim the subject matter which Applicant regards as the invention.

It is respectfully submitted that the instances noted in the Office Action have been addressed by the amendments made to the claims hereby.

Withdrawal of the rejection under 35 U.S.C. § 112, second

paragraph, is respectfully requested.

Reconsideration is respectfully requested of the rejection of claims 1-12 and 24-30 under 35 U.S.C. § 103, as allegedly being unpatentable over U.S. Patent No. 5,613,909 (Stelovsky) in view of U.S. Patent No. 4,852,170 (Bordeaux) and U.S. Patent No. 5,546,500 (Lyberg).

Applicant has carefully considered the comments of the Office Action and the cited references, and respectfully submits that claims 1-12 and 24-30 are patentably distinct over the cited references for at least the following reasons.

The present invention relates to a method and system for inputting music containing voice information, separating the music into voice information and musical accompaniment information, employing speech recognition processing on the voice to generate lyrical information, translating the lyrical information into at least a second language, and using speech synthesis to create vocal information in the second language.

Stelovsky, as understood by Applicant, relates to a time-segmented multimedia game playing and authoring system for playing a game, educational, or instructional sequence in conjunction with a prerecorded multimedia presentation consisting of at least motion video, sound, and accompanying text. The multimedia presentation is partitioned into time segments, and the game sequence is partitioned into task units that are synchronized with the time segments. The time address markers for the beginning and ending of each of the time segments initialize, execute, and close each task unit of a programmed game sequence.

Bordeaux, as understood by Applicant, relates to a computer speech recognition system for digitally analyzing and recognizing speech in real time. The system includes a spectrum analyzer which determines the frequency content of successive segments of speech. Each speech segment is logically analyzed to identify the class of phonemes of which it is a part, and the frequency spectrum of the segment is analyzed to identify the specific phoneme within the type. Sequences of phonemes with transitions excluded can then be compactly stored, transmitted to remote locations, synthesized into voice, and translated logically.

Lyberg, as understood by Applicant, relates to an arrangement for increasing comprehension of speech when translating from a first language to a second language. The arrangement comprises an analysis unit which carries out an analysis of duration and fundamental tone of the speech in the first language. A prosody-interpreting unit determines, on the basis of the analysis and language-characteristic information, prosody-dependent information in the first speech which is used by a prosody-generating unit for the second language for controlling the speech synthesis. A speech synthesis element produces stresses in the speech translated in the second language which, from a language point of view, correspond to stresses in the first language.

The Office Action cites Fig. 5 and col. 9, lns. 12-21 of Stelovsky as allegedly disclosing separating a first vocal information part in a first language and an accompaniment information part (see Office Action, p. 12, ln. 22 to p. 11,

ln. 4).

It is respectfully submitted that Fig. 5 of Stelovsky illustrates a screen layout of the music video game, and shows the subdivision of the screen into five areas including a video window, a lyrics field, a game area, a title, and an operation toolbar (see Stelovsky, col. 8, lns. 17-26).

Col. 9, lns. 12-21 of Stelovsky states ''[a]nother sample variant of the generic Multimedia Game is the ''Karaoke Game''. This game uses recording hardware, such as a microphone and a sound recording card. Like the ''Music Video Game'', the ''Karaoke Game'' uses a music video as a multimedia presentation. In this case the presentation has a motion video track (music video), and instrumental sound track (song melody played by a band), a singer's voice sound track and a text track (the song's lyrics). All of the tracks are synchronized.''

As understood by Applicant, the section of Stelovsky reproduced above indicates that the various elements of the music information, such as the instrumental sound and the singer's voice sound, are located on independent, synchronized sound tracks. There is no disclosure that the tracks are separated by a vocal separation unit.

It is respectfully submitted that neither Fig. 5 nor the cited section of Stelovsky disclose or suggest a vocal separation unit for separating a first vocal information part in a first language and a non-vocal accompaniment information part from input first vocal-containing musical number information, as recited in amended independent claim 1.

The Office Action further cites col. 14, lns. 18-19 of Stelovsky as allegedly disclosing synthesizing the second language lyric information (see Office Action, p. 11, lns. 8-10).

Col. 14, lns. 18-19 of Stelovsky states ''[t]he audio track can be generated rather than recorded (e.g. using a speech generator.)''

It is respectfully submitted that generation of the audio track does not disclose or suggest the use of a synthesis unit to synthesize second language lyric information with accompaniment and first vocal information to generate musical number information.

In contrast, in the present invention a synthesis unit synthesizes the second language lyric information supplied from the processing unit, the non-vocal accompaniment information part, and the first vocal information part separated by the separation unit to generate second vocal-containing musical number information, wherein the second vocal-containing musical number information includes the non-vocal accompaniment information part and a second vocal information part in the second language, as recited in amended independent claim 1.

Neither Bordeaux nor Lyberg are seen to disclose a vocal separation unit for separating a first vocal information part in a first language and a non-vocal accompaniment information part from input first vocal-containing musical number information, or the use of a synthesis unit to synthesize second language lyric information with accompaniment and first

vocal information to generate musical number information, as described above and as recited in amended independent claim 1.

It is respectfully submitted that neither Stelovsky, Bordeaux, nor Lyberg, alone or in combination, disclose or suggest an information processing apparatus comprising a vocal separation unit for separating a first vocal information part in a first language and a non-vocal accompaniment information part from input first vocal-containing musical number information, a processing unit for generating first language lyric information by speech recognition of the first vocal information part in the first language, for translating the generated first language lyric information in the first language into second language lyric information of a second language, and for supplying the second language lyric information, and a synthesis unit for synthesizing the second language lyric information supplied from the processing unit, the non-vocal accompaniment information part, and the first vocal information part to generate second vocal-containing musical number information, wherein the second vocal-containing musical number information includes the non-vocal accompaniment information part and a second vocal information part in the second language, as recited in amended independent claim 1.

Accordingly, for at least the above-stated reasons, it is respectfully submitted that amended independent claim 1, and the claims depending therefrom, are patentable over the cited references. Amended independent claim 24, and the claims depending therefrom, are believed to be patentable over the

cited references for at least similar reasons.

Withdrawal of the rejection of claims 1-12 and 24-30 under 35 U.S.C. § 103 is respectfully requested.

Should the Examiner disagree, it is respectfully requested that the Examiner specify where in the cited document there is a basis for such disagreement.

Entry of this amendment is earnestly solicited, and it is respectfully submitted that this amendment raises no new issues requiring further consideration and/or search, because the functional aspects of the invention have merely been clarified in the amended claims.

The Office is hereby authorized to charge any fees which may be required in connection with this amendment and to credit any overpayment to Deposit Account No. 03-3125.

Favorable reconsideration is earnestly solicited.

Respectfully submitted,
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